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Childcare by Grandparents: Changes between 1992 and 2006

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Abstract

This study considers changes in childcare by grandparents between 1992 and 2006 in relation to changes in mothers' need for and grandparents' opportunity to provide childcare. Data from the Longitudinal Aging Study Amsterdam are used to compare two cohorts of Dutch grandparents aged 58 to 68 ($N_{1992} = 181$; $N_{2006} = 350$). Multilevel regression analysis shows that the probability that grandparents care for their adult daughters' ($N_{1992} = 261$; $N_{2006} = 484$) increased from .23 to .41. The increase can be ascribed to higher maternal employment rates, growth in single motherhood, reduced travel time, and a decline in the number of children. The increase would have been higher if the employment rate of grandparents had not risen.

Keywords: Childcare, Grandparents

Over the past half century, the use of childcare from outside the nuclear family increased in almost all Western societies. External childcare is more often needed because more mothers have paid jobs outside the home (Lewis, Knijn, Martin, & Ostner, 2008). In earlier cohorts, mothers typically stayed at home to take care of children and household. Contemporary mothers of young children continue to work at least part-time or return to the labor market after short breaks (Cohen & Bianchi, 1999; Vlasblom & Schippers, 2006).

Increased longevity and improvements in healthy life expectancy imply an increased availability of grandparents (Bengtson, 2001; Uhlenberg, 2009). Studies have repeatedly shown that grandparental childcare provision is an important source of help for contemporary parents (e.g., Fergusson, Maughan, & Golding, 2008; Fuller-Thomson & Minkler, 2001; Hank & Buber, 2009; Vandell, McCartney, Owen, Booth, & Clarke-Stewart, 2003). Time-use data show that grandparents' efforts often make it less difficult to reconcile caring responsibilities with paid employment (Ichino & De Galdeano, 2005). In 2004, 58% of grandmothers and 49% of grandfathers across European countries supported their adult children by taking care of a grandchild aged 15 years or younger (Hank & Buber, 2009).

Little is known about change over the past few decades in the extent to which grandparents provide childcare. It is often assumed that childcare by grandparents has increased because more mothers are employed (e.g., Fergusson et al., 2008; Hansen, Joshi, & Verropoulou, 2006; Kemp, 2007). No research has actually tested whether such an association exists. Only one descriptive study offers a clue. Gray (2005) observed a lower prevalence of childcare among "other relatives" in 1991 than in 2000 in the United Kingdom. She also observed that employed mothers in 1991 less often received help from "other relatives" when compared to employed mothers in 2000. Assuming that these "other relatives" were predominantly grandparents, she concluded that grandparental childcare provision increased because of greater numbers of working mothers.

The current study tests whether a link exists between increased employment of mothers and grandparental childcare provision by directly assessing the care provided by grandparents. In addition, we consider several alternative explanations for changes in childcare by grandparents. The data are from two representative cross-sectional surveys from the Netherlands. In 2006, the same questions about grandparental childcare and employment of daughters were asked in the Longitudinal Aging Study Amsterdam as in the Living Arrangements and Social Networks of Older Adults in 1992. The data allow a study of change in grandparental childcare provision between 1992 and 2006 for grandparents aged between 58 and 68 years. By focusing on this age category, we capture grandparents who are generally healthy, and are likely to have daughters who are in need of childcare assistance. Figures on mothers' age at childbirth from Statistics Netherlands (2009a) indicate that grandparents are most likely to be involved in childcare between the ages of 53 (first transition to grandparenthood) and 70 (all grandchildren are 12 years or older).

Increase in mothers' employment and need for childcare

Mothers with jobs outside the home face the problem of reconciling work and care responsibilities (Van der Lippe, Jager, & Kops, 2006). In the popular and academic press, terms such as "time crunch" and "time squeeze" are used to describe the time pressures that employed mothers experience (Gauthier, Smeeding, & Furstenberg, 2004). Couples may employ several strategies resolve reconciliation problems. For example, fathers can step in to help with childcare, and couples can save time on homekeeping, leisure, and sleep (Bianchi, 2000). Couples may also manage their working time patterns in such a way that they maximize the time that at least one parent is at home (Carriero, Ghysels, & Van Klaveren, 2009). Dutch parents are more often employed part-time compared to parents in other Western countries: 23% of Dutch male workers are employed part-time (vs. 10% across Europe), and 75% of Dutch female workers are employed part-time (vs. 41% across Europe;

Keuzenkamp & Steenvoorden, 2008). After childbirth, mothers may apply for a job with flexible working hours to make it easier to organize childcare tasks (Larsen, 2004). Mothers may also reduce the number of hours that they work to increase the time available for childcare (Cloïn & Hermans, 2006). It is unlikely that these strategies fully resolve reconciliation problems.

Working mothers in need of childcare can opt for formal and grandparental childcare provision. In the Netherlands, the latter is often preferred. Dutch mothers consider grandparents to be the best childcare providers (Portegijs, Cloïn, Ooms, & Eggink, 2006). Grandparental care is less expensive than formal childcare and in many cases even free of charge: Three out of four Dutch parents do not pay their parents for their childcare activities (Portegijs et al., 2006). Parents who rely on grandparental childcare because in comparison with formal arrangements they find it more convenient, think it is most beneficial to the child, or trust their parents best (Fergusson et al., 2008; Wheelock & Jones, 2002). In comparison to parents in other Western countries, the Dutch are more likely to view formal childcare as potentially harmful (Treas & Widmer, 2000), a view that presumably contributes to the high preference for grandparent's assistance in childcare. European parents tend to rely on a combination of formal and grandparental care (Larsen, 2004).

It is reasonable to assume that childcare needs have increased over time because of the increase in mothers' labor force participation. Since 1960, and in particular during the 1970s and 1980s, the labor force participation of women increased remarkably (Brewster & Rindfuss, 2000). Although not as impressive as during the 1970's and 1980's, the rate of women participating on the labor market continued to rise in the 1990's and after. Figures from the Organization for Economic Co-operation and Development (OECD, 2009) show that between 1992 and 2006, women's gross-employment participation gradually increased from 58% to 64% across EU-countries. For the Netherlands, women's labor participation increased

from 55% to 70% and for women between 25 and 39 years old from 67% to 82%. Part-time employment increased in particular. The Dutch preference for grandparental care together with the increase in labor force participation among Dutch women lead to the hypothesis that the likelihood that grandparents provide childcare has increased between 1992 and 2006.

Other Changes Affecting Grandparental Childcare

Earlier research has underscored the role of motivations in the provision of grandparental care. Positive recollections of their own grandparents increase the likelihood that grandparents are actively involved in the lives of their grandchildren (King & Elder, 1997). Affection between grandparents and the middle generation also encourages grandparental involvement (Mueller & Elder, 2003; Oppelaar & Dykstra, 2004). Unfortunately we cannot incorporate motivations in our model, given a lack of data on changes over time. Neither do we incorporate information on policy changes aimed at easing the reconciliation of work and caring responsibilities, such as parental leaves and family benefits (Lewis et al., 2008). Though reconciliation policies have accompanied the increase in mothers' labor force participation, their impact on grandparental care provision is conceptually unclear. We decided to focus on changes in mothers' need for and grandparents' opportunity to provide childcare, as shaped by: middle generation divorce, travel time between grandparent and parent, number of offspring, grandparental employment, and grandparental divorce.

Greater divorce rates among parents are likely to have increased the need for grandparental childcare. Between 1996 and 2006 an increasing proportion of divorces in the Netherlands involved parents with underage children (from 46% to 57%). Some divorced parents find a new partner; others remain single. In families of divorce, childcare is not easily shared with the former partner (McLanahan & Sandefur, 1994), and for that reason, grandparents are often mobilized as childminders. Hank and Buber (2009) observed across ten

European countries that grandparents are more likely to provide childcare when the parent is single than when the parent has a partner. Between 1995 and 2008, the number of single parent families in the Netherlands increased with 30 percent (De Graaf, 2008).

A decrease in travel time between grandparents and children (Harms, 2008) is likely to have increased the provision of childcare by grandparents. Increasing numbers of older Dutch women own a car (Statistics Netherlands, 2009c) and the percentage of women between 60 and 65 years who have a driver's license increased from 65% (1992) to 84% (2006; Statistics Netherlands, 2009b). Both developments suggest a decrease in travel time.

Over the past decades, fertility levels have been declining in the Netherlands and elsewhere in Europe (Frejka & Sobotka, 2008). The decline in family size implies less competition for grandparental time across the children, and thus a greater likelihood of grandparental childcare.

Greater employment and divorce rates among grandparents are likely to have decreased childcare by grandparents. Del Boca, Pasqua, and Pronzato (2009) suggested that the grandparent's time to care for grandchildren is restricted when grandparents are employed. Gross labor participation rates among women aged 55 to 64 rose from 16% to 37% in the years 1992 - 2006 (OECD, 2009). Divorced grandparents are generally less involved with their grandchildren (King, 2003; Oppelaar & Dykstra, 2004). According to Statistics Netherlands (2009d), the proportion divorcees among people between the age of 58 and 68 increased from 6% in 1992 to about 11% in 2006.

Method

Respondents

Two surveys among older adults in the Netherlands conducted 14 years apart provided data for age-equivalent cohorts of grandparents in two distinct periods in time. The first was the Living Arrangements and Social Networks of Older Adults research program in 1992

(LSN; Knipscheer, de Jong-Gierveld, van Tilburg, & Dykstra, 1995) and included 4,494 older adults from 54 to 89 years. The respondents were randomly selected from the population registers of 11 municipalities. The response was 62%. The second survey was the 2006 wave of the Longitudinal Aging Study Amsterdam (LASA; Deeg, van Tilburg, Smit, & de Leeuw, 2002) which included the identical set of questions about grandparenthood as the 1992 sample. Respondents from 2006 were originally sampled in 2002 ($N = 1,002$; response: 57%) using the same sampling frame as LSN had in 1992. The 2006 follow-up included 861 older adults aged between 58 and 68 years (2% deceased; 4% refused; 5% were interviewed by phone; 3% were lost for other reasons).

At both occasions, the respondents were interviewed in their home by use of a personal computer. Because of time restrictions in 1992, the computer randomly selected 964 grandparents who were asked to report on the name, sex, age, co-residential status, and contact frequency of all their grandchildren. To allow a historical comparison, we selected grandparents aged between 58 and 68 years in the 1992 survey ($n = 253$). The 2006 survey included 539 grandparents.

We excluded several middle generation members. First, all adult sons were excluded because the focus of the current study is on increase in maternal employment and information about wives (daughters in-law of the respondents) was not available. This selection decreased the number of eligible grandparents with 31 in the 1992 survey and with 106 in the 2006 survey. Next, we excluded the childless and adult daughters whose children were all older than 12 years. Children over 12 generally no longer need childcare. The sample of grandparents was thereby reduced with 40 for the 1992 survey and with 77 for the 2006 survey. Further, we excluded adult daughters with missing information (e.g., for three daughters the employment status was not known) or who were co-residing with their parents (i.e. grandparents). The final sample consisted of 181 grandparents with 261 adult daughters

for the 1992 survey and of 350 grandparents with 484 adult daughters for the 2006 survey.

Measures

Grandchildren and adult daughters were identified by name. For each grandchild, grandparental childcare was assessed by the question: "How often did you take care of ... in the past twelve months?" with four possible answers: 1 = *never*, 2 = *seldom*, 3 = *sometimes*, and 4 = *often*. Research using the 1992 data suggested that grandparents predominantly take care of sets of grandchildren (Oppelaar & Dykstra, 2004). For that reason, we created a variable indicating the childcare status for each daughter as follows: 1 = *childcare is provided often to at least one grandchild*, 0 = *childcare is provided less than often to at least one grandchild*. We assume that providing care "often" rather than "seldom" or "sometimes" reflects a structural solution for childcare related to maternal employment.

A dummy variable reflected the year of measurement: 0 = 1992; 1 = 2006. For each adult daughter, grandparents were asked: "Does ... have a job, and if so, does she work full-time or part-time?" Two dummy variables were used for full-time (1 = *yes*) and part-time (1 = *yes*) maternal employment, with not employed as category of reference. A number of possible correlates of changes in grandparental childcare were included. Correlates at the middle generation level were single motherhood (1 = *yes*), and travel time which was based on the question: "How long does it take you to travel to ..., by means of the way you usually travel?" The travel time variable, ranging from 0 minutes to 1440 minutes, was highly skewed to the right so we transformed it by taking the natural log (range 0 - 7). Correlates at the grandparental level were gainful employment (1 = *yes*, 0 = *no*), divorced (1 = *yes*, 0 = *no*) and number of offspring. Finally, we control for the following: the grandparent's gender because grandmothers are more likely to provide childcare than grandfathers (59% grandmothers in 1992 and 53% in 2006), the daughter's age because older daughters are less likely to need childcare than younger ones ($M_{1992} = 34.18$, $SD = 4.00$; $M_{2006} = 32.77$, $SD = 3.89$; Vandell et

al., 2003), and whether the daughter has at least one child of preschool age because the need for childcare is presumably greater when children are not attending school (i.e. four years or younger, 53% in 1992 and 60% in 2006; Portegijs et al., 2006).

Procedure

We pooled information from the 1992 and 2006 surveys. The pooled dataset contains a record for each eligible daughter of a grandparent. First we assessed whether maternal employment and other possible correlates of grandparental care differed between the years of data collection by using descriptive statistics and statistical tests. Next we conducted a multilevel logit regression analysis (Rasbash, Steel, Browne, & Prosser, 2004) to empirically test whether a link exists between changes in grandparental childcare provision and its possible correlates. We distinguished two hierarchical levels: adult daughters at the lower and grandparents at the higher level. The dependent variable grandparental childcare provision was at the lower level. Markov Chain Monte Carlo was used for estimation. To ease interpretation of the logit regression, we transformed the estimates of the regression into probability (P) with the formula $P = 1 / (1 + e^{-Z})$ when describing the results. Z is the regressions' estimate.

To assess change between 1992 and 2006 in grandparental childcare provision, we calculated a first regression model (Model 0) that included the year of data collection. Using the estimates, we calculated the probability of childcare for both years as well as the absolute difference between these probabilities. The latter indicates change in childcare by grandparents between 1992 and 2006. This model additionally provided a reference deviance statistic (Deviance Information Criterion; DIC) that was used to evaluate model improvement when other correlates were added. DIC values of two models are directly comparable and any decrease in DIC suggests a better fitting model.

The next and final model (Model 1) included all correlates. Bivariate correlations as

well as tolerance testing indicated that all independent variables qualified for the regression analysis assumption of absence of multicollinearity. Estimates from this model were used for three purposes. First, we evaluated which factors significantly increased or decreased the probability of grandparental childcare provision. Second, we checked whether change in childcare by grandparents could be ascribed to change between 1992 and 2006 in the correlates by comparing the estimate for the year of data collection with the one estimated in Model 0. Any reduction in effect size suggests that at least one of the added factors explains change in childcare by grandparents. Finally, we used the model's estimates in combination with the descriptive statistics from our first step to disentangle the overall change into change associated with a specific correlate. For example, to compute change in the incidence of grandparental childcare attributable to part-time employment we estimated the incidence of grandparental childcare on the basis of Model 1 for the year 1992 using the actual proportion of part-time employment and using the 2006 proportion of part-time employment. This estimation included the weighted means of the other correlates. The difference between the two estimations indicates the change in grandparental childcare provision that is attributable to change in part-time employment. We followed the same procedure for the other correlates.

Results

Descriptive statistics (Table 1) show differences between 1992 and 2006 in adult daughters' employment and other factors that may have increased or decreased grandparental childcare provision. Part-time employment among daughters was lower in 1992 (.35) than in 2006 (.58). This difference was statistically significant and preludes an important explanation for change in grandparental childcare provision. The proportion of adult daughters employed full-time was .11 in 1992 and .16 in 2006. Obviously, only few Dutch mothers with young children choose to be engaged in full-time employment. The difference in proportion was small and not significant, indicating a rather limited increase over 14 years. Fewer adult

daughters were single mothers in 1992 (.03) compared to 2006 (.10). In 1992, grandparents were more restricted by travel time than in 2006 as can be seen from the significant difference in average travel time (1992: mean of 3.16, i.e. 23 minutes; 2006: mean of 2.92, i.e. 18 minutes). Divorce among grandparents remained stable at a proportion of .07. Grandparents in 1992 had on average about one child more than in 2006. The proportion of grandparents in gainful employment nearly doubled between 1992 and 2006 from .12 to .24.

[Table 1 about here]

The estimates from the multilevel logit regression analysis are shown in Table 2. The intercept and indicator for year of measurement in Model 0 indicate that the estimated probability for childcare by grandparents increased from .23 in 1992 to .41 in 2006.

Model 1, which is a significant improvement of Model 0 (dDIC = 161), shows that several characteristics of adult daughters and grandparents account for differences in childcare by grandparents. Grandparental childcare is more likely for daughters who are younger, have preschool aged children, are employed either part-time or full-time employed, or are a single parent. Grandparental childcare is less likely the greater the time required to travel to adult daughters, and the larger the number of siblings who compete for grandparental childcare. Grandmothers were more likely to provide childcare than grandfathers. No differences were observed for the grandparent’s divorce status. Grandparents with paid jobs were less likely to be involved in childcare.

[Table 2 about here]

The coefficient for year of measurement lost statistical significance in Model 1, implying that the increase in grandparental childcare provision is largely attributable to the correlates that changed between 1992 and 2006. Using estimates from Model 1, we calculated that the increase in part-time employment among daughters accounts for .05 (i.e. 25%) of the total increase of .18 in grandparental childcare between 1992 and 2006 that was observed in

Model 0. Only .01 (5%) of the increase is due to an increase in full-time employment among daughters. The increase in single parent households accounts for .01 (8%) of the increase in childcare provision by grandparents. The decrease in travel time between 1992 and 2006 accounts for .04 (23%) of the observed difference in likelihood of childcare provision by grandparents. An additional analysis (results not shown) indicates that in 1992 about 50% of grandparents lived within a 20 minutes travel time from at least one daughter whereas this figure was about 61% in 2006. Divorce among grandparents did not increase in our sample between 1992 and 2006 and is therefore not related to change in childcare by grandparents. Decrease in the number of children accounts for .05 (27%) of the difference between 1992 and 2006 in probability of grandparental childcare provision. The calculations further indicate that probability of childcare would have been .01 (6%) higher in 2006 if the employment rate of grandparents had not increased.

Discussion

Our results show that Dutch grandparents aged 58 to 68 were more likely to care for their adult daughters' children in 2006 than in 1992. The increase in grandparental care is linked to increasing needs on the part of adult daughters as indicated by higher employment rates and a higher rate of single motherhood. It also appears to reflect greater opportunities to provide care as indicated by decreased travel time and less competition among grandchildren because recent grandparents have fewer of them.

In 2006 a higher proportion of grandparents was gainfully employed than in 1992, a trend that reflects increasing labor force participation rates among older workers in the Netherlands over the past decades (Henkens & Siegers, 2008). Our results suggest that the increase in grandparental care would have been greater if the grandparental employment rate had not increased.

The increase in grandparental childcare provision is remarkable given developments in Dutch society which a-priori predict a decrease in such care. First, waiting lists for formal childcare have become shorter (Netherlands Bureau for Economic Policy Analysis [NBEPA], 2008). In 1990, about 31.000 childcare slots were available and about 40.000 children were on the waiting-list (130%). The number of children on the waiting list relative to the number of available slots decreased to 49% in 1994 and to and 39% in 1996. In 2002, the lack of capacity was 18% for daycare and 14% for after-school care. When evaluated solely on availability of formal childcare, the likelihood of grandparental childcare provision should have decreased because of increased opportunities for parents to organized formal childcare. Second, parents' attitudes towards placing children in formal childcare have become less negative over the past decades (NBEPA, 2008). Given the greater acceptance of formal childcare arrangements, childcare by grandparents should have decreased.

A new policy encouraging childcare by grandparents (and other members of the informal network) is too recent to have been responsible for the observed increase. Under this policy, grandparents receive up to nine dollars per hour from the government for providing childcare. Although the new law came into effect in 2005, data from the NBEPA (2008) indicate that grandparents did not start receiving the subsidy until 2007, which is after the completion of the LASA data collection. Therefore, this new law cannot provide an alternative explanation for the increase in grandparental childcare provision. Of course, the possibility exists that the 2005 policy has led to an even greater prominence of grandparents in family life in recent years.

Though we established associations between the increased likelihood of grandparental childcare on the one hand, and increased needs among adult daughters for such care and increased opportunities among grandparents to provide care on the other hand, the direction of causality is not clear. We cannot rule out the possibility, for example, that the availability of

grandparental childcare served as an incentive for adult daughters to return to the labor force or to continue working after childbirth. Tobío (2007) argues that grandmothers step in because they want their adult daughters to have career opportunities that they themselves did not have. The decrease in travel time might be the result of improved means of transportation. Alternatively, it might reflect greater geographic proximity. Unfortunately LASA has no information on the residential locations of grandparents and adult daughters. The Netherlands Kinship Panel Study (NKPS) does, however. Using this dataset, Van Diepen and Mulder (2009) showed that the presence of grandchildren increased the likelihood that older adults relocated in the in the direction of their adult children. The desire to spend time with grandchildren might have prompted grandparents to move closer to them.

It is conceivable that grandparents in the younger cohort more strongly want to be involved with their grandchildren than grandparents in the older cohort. Maternal employment provides a nice occasion to spend time with the grandchildren in the absence of the parents. Future research should focus more directly on grandparents' motivations to provide care in conjunction with their adult children's preferences and the availability of formal childcare.

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Table 1

Differences Between 1992 and 2006 in Maternal Employment and Other Possible Correlates of Grandparental Childcare Provision

	1992 Mean or proportion	2006 Mean or proportion
Middle generation level ($N_{1992} = 261$; $N_{2006} = 484$)		
Employed part-time	0.35	0.58 ***
Employed full-time	0.11	0.16
Single parent	0.03	0.10 ***
Travel time (0 - 7)	3.16	2.92 **
Grandparental level ($N_{1992} = 181$; $N_{2006} = 350$)		
Divorced	0.07	0.07
Number of children (1 - 12)	4.34	3.33 ***
Employed	0.12	0.24 ***

Note: t -test and χ^2 tests were used as tests for difference between 1992 and 2006

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 2

*Multilevel Logit Regression Models Predicting Likelihood of Grandparental Childcare**Provision for Daughters (Unstandardized Coefficients)*

	Grandparental Childcare Provision			
	Model 0		Model 1	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
Year 2006 (vs. 1992)	.84 ***	.22	.16	.23
Middle generation level ($N_{1992} = 261$; $N_{2006} = 484$)				
Intercept	-1.19	.19	3.40	1.23
Age (21 - 45)			-.07 *	.03
Parent of young child			.93 ***	.25
Employed part-time			.99 ***	.24
Employed full-time			.81 **	.31
Single parent			.92 *	.37
Travel time (0 - 7)			-.85 ***	.14
Grandparental level ($N_{1992} = 181$; $N_{2006} = 350$)				
Grandmother			.72 **	.22
Divorced			-.13	.44
Number of children (1 - 12)			-.25 ***	.07
Employed			-.44 *	.22
Random part				
Variance grandparental level	.88	.54	.46	.77
Deviance Information Criterion (DIC)	849.8		756.0	

Note: Wald-tests were used for statistical significance

* $p < .05$. ** $p < .01$. *** $p < .001$.